

## I. AMENDMENT

### A. In the Claims

Please amend the claims, and add new claims, as set out below.

1. (Currently amended) A ~~computer-aided method of using an apparatus to manage cash flows for a transaction~~, the method including the steps of:

controlling a computer system comprising a digital computer processor to process input data into output data, the processor in communication with an input device to receive the input data and to an output device to output the output data, said processor programmed so as to facilitate managing a financial derivative transaction, specified by lives of individuals and by time periods, of actual cash flow for expected cash flow, said cash flows arising from at least one event of death, disability, health, and survivorship wherein said managing includes:

receiving, as some of said input data, specification of said lives and specification of said time periods, said specifications corresponding to said financial derivative transaction;

receiving, as some of said input data, respective descriptions of risks;

receiving statistical assumptions for said risks, and;

receiving financial assumptions for said risks, said risks and said assumptions being associated with said lives for each of the time periods corresponding to said financial derivative transaction;

calculating, from the descriptions and the assumptions, expected cash flows corresponding to said risks for the time periods corresponding to said financial derivative transaction;

receiving, as some of said input data, actual cash flows information from occurrence of events corresponding to said risks associated with said lives in said time periods of said financial derivative transaction;

accounting for a first party to the transaction owing expected cash flows to a second party according to the financial derivative transaction;

accounting for the second party owing the actual cash flows to the first party according to the financial derivative transaction; and

computing said output data, from said accountings, said output data corresponding to a net settlement, for each of said time periods, between the parties in the financial derivative transaction to manage the, defined by the lives and by the time periods, of the actual cash flows and the expected cash flows.

2. (Currently amended) The method of claim 1, wherein the step of receiving respective descriptions of risks includes receiving respective characteristics of said risks associated with contractual exposures from respective insurable risk coverage of the individuals.

3. (Currently amended) The method of claim 1, wherein the step of receiving respective descriptions of risks includes receiving respective characteristics of said risks associated with respective contractual insurable risk exposure to the individuals.

4. (Currently amended) The method of claim 1, wherein the step of receiving respective descriptions of risks includes receiving respective characteristics of said risks associated with contractual exposures from corporate-owned life insurance coverage of the individuals.

5. (Currently amended) The method of claim 1, wherein the step of receiving respective descriptions of risks includes receiving respective characteristics of said risks

associated with contractual exposures from bank-owned life insurance coverage of the individuals.

6. (Currently amended) The method of claim 1, wherein the step of receiving respective descriptions of risks includes receiving respective characteristics of said risks associated with corporate contractual benefit payment exposures to the individuals.

7. (Original) The method of claim 1, wherein the step of receiving respective descriptions of risks includes receiving respective characteristics of said risks associated with contractual exposures in a reinsurance treaty.

8. (Currently Amended) The method of claim 1, wherein the step of calculating expected cash flows includes the step of processing said descriptions and said assumptions in calculating timing and amounts of expected benefits associated with said occurrence of events for the risks; and

wherein said managing further includes ing receiving, as some of said input data, pricing data reflecting said transaction and producing, from said pricing data, documentation of the transaction as an exchange between said parties; and wherein the step of computing the net settlement is responsive to said exchange between the parties.

9. (Currently Amended) The method of claim 8, wherein the step of inputting pricing data includes the step of:

inputting a definition of a relationship between the expected cash flows and the actual cash flows reflecting a symmetric exchange of non-proportional contractual exposures.

10. (Currently Amended) The method of claim 8, wherein the step of inputting pricing data includes the step of:

inputting a definition of a relationship between the expected cash flows and the actual cash flows reflecting a symmetric exchange of proportional ~~contractual~~ exposures.

11. (Currently Amended) The method of claim 8, wherein the step of inputting pricing data includes the step of:

inputting a definition of a relationship between the expected cash flows and the actual cash flows reflecting an asymmetric exchange of proportional and non-proportional ~~contractual~~ exposures.

12. (Currently amended) The method of any one of claims 2-76, wherein said step of managing further includesing the steps of:

receiving, as some of said input data, financial information on securitizing of funding for the ~~contractual~~ exposures; and

processing the financial information on securitizing so as to implement securitization of the funding.

13. (Currently amended) The method of claim 12, wherein said step of processing the financial information further includesing the step of calculating an impact of the transaction on the securitizing.

14. (Currently amended) The method of claim 13, wherein said step of processing the financial information further includesing the step of calculating the an impact of the transaction on tranches for the securitizing.

15. (Currently amended) The method of claim 14, wherein said step of processing the financial information further includesing the step of determining an effect of said transaction on a securitization pool.

16. (Currently amended) The method of any one of claims 2-7, wherein the step of receiving respective descriptions of risks includes receiving nominal death benefit face amounts for said contractual exposures; and

wherein the step of receiving statistical assumptions includes receiving expected mortality rates; and

wherein said step of calculating expected cash flows further includesing the steps of:

incorporating margins and loadings in developing expected mortality rates for the transaction; and

determining expected timing and expected amount of death benefits using said expected mortality rates, said corresponding nominal death benefit face amounts, and said characteristics of said risks associated with said contractual exposures.

17. (Currently amended) The method of any one of claims 2-7, wherein the step of receiving respective descriptions of risks includes receiving respective characteristics of said risks associated with at least one member of a group consisting of a plurality of the individuals

and a group of the individuals.

18. (Original) The method of claim 17, wherein the step of receiving respective characteristics of risks associated with said member of the group includes receiving at least one characteristic from a group consisting of age, sex, mortality rating, morbidity rating, compensation, position, job class, and years of service.

19. (Original) The method of claim 1, wherein the step of receiving statistical assumptions includes receiving rates of decrement.

20. (Currently amended) The method of claim 1, wherein the step of receiving statistical assumptions includes receiving rates of decrement associated with insurable risk coverage of the individuals.

21. (Currently amended) The method of claim 1, wherein the step of receiving statistical assumptions includes receiving rates of decrement associated with insurable risk exposures to the individuals.

22. (Original) The method of claim 1, wherein the step of receiving statistical assumptions includes receiving rates of decrement associated with a reinsurance treaty.

23. (Original) The method of any one of claims 19-22, wherein the step of receiving financial assumptions includes receiving at least one of a group consisting of a discount rate, an expense, and a fee.

24. (Currently amended) The method of any one of claims 19-22, wherein said step of managing further includesing the step of updating at least one of a member of a group consisting of said descriptions, said statistical assumptions, said financial assumptions, and said actual cash flows information from the occurrence of at least one of said events; and said output data include said at least one member that is updated.

25. (Currently amended) The method of claim 16, wherein the step of receiving actual cash flows information from occurrence of events corresponding to said risks includes receiving information on actual timing and the corresponding nominal actual amount of death benefits, respectively for each of said individuals.

26. (Currently amended) The method of claim 25, wherein said step of managing further includesing for each of said lives and for each of said time periods of the financial derivative transaction:

tracking the expected timing and the expected amount of death benefits, respectively for each of said individuals, if any, and calculating the expected cash flows as a sum of said expected amounts of death benefits;

tracking the actual timing and the corresponding nominal actual amount of death benefits, if any, and calculating the actual cash flows as a sum of said corresponding nominal amounts of death benefits for the actual deaths in said time period; and

tracking producing a tracking of the net settlements between the actual cash flows and the expected cash flows in said output data for the time periods of the transaction.

27. (Currently amended) The method of claim 26, wherein said step of managing further includes~~ing~~ forming a historical record of the expected timing and the expected amounts of death benefits, the actual timing and the nominal ~~actual~~ amount of death benefits, respectively for each of said individuals, and each said net settlement for each of said time periods, wherein said output data include the historical record.

28. (Currently amended) The method of claim 16, wherein said step of managing further includes~~ing~~ the steps of:

providing the second party with documentation of said cash flows; and illustrating a transaction fee from the second party to the first party, including illustrating said transaction fee incorporated in the net settlements, wherein said output data include said transaction fee.

29. (Currently amended) The method of claim 16, wherein said step of managing further includes~~ing~~ the step of:

accounting for the first party receiving a fee for early termination of the transaction, wherein said output data include said early termination fee.

30. (Currently amended) The method of claim 16, wherein said financial transaction is specified, in some of said input data, as a financial transaction in which ~~further including the step of receiving data identifying the second party as~~ an entity having ownership rights to said contractual exposures, and said contractual exposures are on more than one life of said individuals.

31. (Currently amended) The method of claim 16, wherein said financial transaction is specified, in some of said input data as a financial transaction further including the step of receiving data identifying the transaction as pursuant to a contract binding the parties.

32. (Currently Amended) The method of claim 31, wherein said financial transaction is specified, in some of said input data as a financial transaction further including the step of receiving data identifying the transaction as having a portion renewable on a period-to-period basis.

33. (Currently amended) Apparatus comprising:  
a computer system comprising a digital computer operably connected to an input device, a memory, and an output device, the computer programmed to facilitate a financial derivative transaction by implement the operations including of:  
receiving, at the input device, respective descriptions of risks;  
receiving statistical assumptions for said risks;  
receiving financial assumptions for said risks;  
specification of lives of individuals; and  
specification of time periods;  
calculating, from the descriptions and the assumptions and both said specifications, expected cash flows corresponding to said risks for the time periods of said derivative financial transaction;  
receiving, at the input device, actual cash flows information from occurrence of events corresponding to said risks; and  
managing the financial derivative transaction, specified by said lives and said time

periods, of actual cash flow for said expected cash flow, said cash flows arising from at least one event of death, disability, health, and survivorship, the managing comprising:

producing a first accounting for of a first party to a the financial derivative transaction owing the expected cash flows to a second party to the financial derivative transaction; and

producing a second accounting for of the second party to the financial derivative transaction owing the actual cash flows to the first party to the financial derivative transaction; and outputting, at said output device, output data comprising at least one of said first accounting, said second accounting, and computing a net settlement computed based on the expected cash flows and the actual cash flows, for each of said time periods, between the parties, in the financial derivative transaction, to manage the actual cash flows and the expected cash flows said output data according to the financial derivative transaction specified by said lives and said time periods, of actual cash flow for said expected cash flow.

34. (Currently Amended) The apparatus of claim 33, wherein the receiving respective descriptions of risks includes receiving respective characteristics of said risks associated with contractual exposures from respective insurable risk coverage of the individuals.

35. (Currently Amended) The apparatus of claim 33, wherein the receiving respective descriptions of risks includes receiving respective characteristics of said risks associated with respective contractual insurable risk exposure to the individuals.

36. (Currently Amended) The apparatus of claim 33, wherein the receiving respective descriptions of risks includes receiving respective characteristics of said risks

associated with contractual exposures from corporate-owned life insurance coverage of the individuals.

37. (Currently Amended) The apparatus of claim 33, wherein the receiving respective descriptions of risks includes receiving respective characteristics of said risks associated with contractual exposures from bank-owned life insurance coverage of the individuals.

38. (Currently Amended) The apparatus of claim 33, wherein the receiving respective descriptions of risks includes receiving respective characteristics of said risks associated with corporate contractual benefit payment exposures to the individuals.

39. (Previously presented) The apparatus of claim 33, wherein the receiving respective descriptions of risks includes receiving respective characteristics of said risks associated with contractual exposures in a reinsurance treaty.

40. (Currently Amended) The apparatus of claim 33, wherein the calculating expected cash flows includes processing said descriptions and said assumptions in calculating timing and amounts of benefits associated with said occurrence of events for the risks; further comprising the operation of receiving, at the input device, pricing data reflecting said financial derivative transaction as an exchange between said parties; and wherein the computing the net settlement is responsive to said pricing data.

41. (Currently Amended) The apparatus of claim 40, wherein the receiving pricing data includes the operation of:

receiving a definition of a relationship between the expected cash flows and the actual cash flows reflecting a symmetric exchange of non-proportional ~~contractual~~ exposures.

42. (Currently Amended) The apparatus of claim 40, wherein the receiving pricing data includes the operation of:

receiving a definition of a relationship between the expected cash flows and the actual cash flows reflecting a symmetric exchange of proportional ~~contractual~~ exposures.

43. (Currently Amended) The apparatus of claim 40, wherein the receiving pricing data includes the operation of:

receiving a definition of a relationship between the expected cash flows and the actual cash flows reflecting an asymmetric exchange of proportional and non-proportional ~~contractual~~ exposures.

44. (Currently Amended) The apparatus any one of claims 34-39, further including the operation of ~~processing responsive to producing, as output at the output device, data reflecting securitizing of funding for the contractual exposures.~~

45. (Currently Amended) The apparatus of claim 44, wherein the operation of producing data reflecting securitizing of funding for the exposures comprises further including the operation of calculating impact of the financial derivative transaction on the securitizing.

46. (Currently Amended) The apparatus of claim 45, wherein the operation of producing data reflecting securitizing of funding for the exposures comprises further including the

operation of calculating the impact of the financial derivative transaction on tranches for the securitizing.

47. (Currently Amended) The apparatus of claim 46, wherein the operation of producing data reflecting securitizing of funding for the exposures includes further including the operation of determining an effect of said financial derivative transaction on a securitization pool.

48. (Currently Amended) The apparatus of any one of claims 34-39, wherein the receiving respective descriptions of risks includes receiving nominal death benefit face amounts for said contractual exposures; and

wherein the receiving statistical assumptions includes receiving expected mortality rates; and further including the operations of:

wherein the operation of calculating expected cash flows includes the operations of:  
incorporating margins and loadings in developing expected mortality rates for the financial derivative transaction; and

determining expected timing and expected amount of death benefits using said expected mortality rates, corresponding nominal death benefit face amounts, and said characteristics of said risks associated with said contractual exposures.

49. (Currently Amended) The apparatus of any one of claims 34-39, wherein the receiving respective descriptions of risks includes receiving respective characteristics of said risks associated with at least one member of a group consisting of a plurality of the individuals and a group of the individuals.

50. (Previously presented) The apparatus of claim 48, wherein the receiving respective characteristics of risks associated with said member of the group includes receiving at least one characteristic of age, sex, mortality rating, morbidity rating, compensation, position, job class, and years of service.

51. (Previously presented) The apparatus of claim 33, wherein the receiving statistical assumptions includes receiving rates of decrement.

52. (Currently Amended) The apparatus of claim 33, wherein the receiving statistical assumptions includes receiving rates of decrement associated with insurable risk coverage of the individuals.

53. (Currently Amended) The apparatus of claim 33, wherein the receiving statistical assumptions includes receiving rates of decrement associated with insurable risk exposures to the individuals.

54. (Previously presented) The apparatus of claim 33, wherein the receiving statistical assumptions includes receiving rates of decrement associated with a reinsurance treaty.

55. (Previously presented) The apparatus of any one of claims 51-54, wherein the receiving financial assumptions includes receiving at least one of a discount rate, an expense, and a fee.

56. (Currently Amended) The apparatus of any one of claims 51-54, further

including the operations of:

\_\_\_\_\_ updating at least one of said descriptions, said statistical assumptions, said financial assumptions, and said actual cash flows information from the occurrence of at least one of said events so as to produce an update; and

including the update in output data.

57. (Currently Amended) The apparatus of claim 48, wherein the receiving actual cash flows information from occurrence of events corresponding to said risks includes receiving information on actual timing and actual the corresponding nominal amount of death benefits, respectively for each of said individuals.

58. (Currently Amended) The apparatus of claim 57, further including the operations of:

tracking, for each of said time periods, the expected timing and the expected amount of death benefits, respectively for each of said individuals, if any, and calculating expected cash flows as a sum of said expected amounts of death benefits;

tracking, for each of said time periods, the actual timing and the actual corresponding nominal amount of death benefits, if any, and calculating actual cash flows as a sum of said corresponding nominal amounts of death benefits for the actual deaths in said time period; and

producing a tracking of net settlements for the time periods of the financial derivative transaction in output data.

59. (Currently Amended) The apparatus of claim 57, wherein the computing a

net settlement includes forming a historical record of the expected timing and the expected amount of death benefits, the actual timing and the actual nominal amount of death benefits, respectively for each of said individuals, and each said net settlement for each of said time periods.

60. (Currently Amended) The apparatus of claim 48, further including the operations of:

providing, to a computer of the second party, documentation of said cash flows; and illustrating a transaction fee from the second party to the first party, including illustrating said transaction fee incorporated in the net settlement.

61. (Currently Amended) The apparatus of claim 48, further including the operation of accounting for the first party receiving a fee for early termination of the financial derivative transaction in output data.

62. (Currently Amended) The apparatus of claim 48, further including the operation of receiving data identifying the second party as an entity having ownership rights to the contractual exposures and wherein said contractual exposures are on more than one of life of said individuals.

63. (Currently Amended) The apparatus of claim 48, further including the operation of receiving data identifying the financial derivative transaction as pursuant to a contract binding the parties, and processing responsive to said data identifying the financial derivative transaction.

64. (Currently Amended) The apparatus of claim 563, further including the operation of receiving data identifying the financial derivative transaction as having a portion renewable on a period-to-period basis.

65. (Currently Amended) Apparatus comprising:  
a computer system comprising a digital computer operably connected to an input device, a memory, and an output device, the computer programmed to process input data into output data so as to manage a financial derivative transaction, specified by lives of individuals and by time periods, of actual mortality cash flow for expected mortality cash flow, by implement the operations comprising of:

receiving, at the input device, respective descriptions of risks associated with contractual exposures from respective insurable coverage of individuals;

receiving statistical assumptions for said risks;

receiving financial assumptions for said risks; and

specification of lives of individuals, and specification of time periods, wherein said risks and said assumptions are associated with said financial derivative transaction;

calculating, from the descriptions and the assumptions, and the specifications of the lives of individuals and the time periods, the expected mortality cash flows corresponding to said risks for said time periods;

receiving the actual mortality cash flows information from occurrence of events corresponding to said risks;

producing a first accounting for of a first party to the transaction owing the expected mortality cash flows to a second party to the transaction; and

producing a second accounting for of the second party to the transaction owing

actual mortality cash flows to the first party; and

outputting, at the output device, output data comprising at least one of said first accounting, said second accounting, and computing a net settlement amount computed based on the expected mortality cash flows and the actual mortality cash flows, for each of said time periods, between the parties, in according to the financial derivative transaction to manage the actual mortality cash flows and the expected mortality cash flows.

66. (Currently Amended) The apparatus of claim 65, wherein the calculating expected mortality cash flows includes processing said descriptions and said assumptions in calculating timing and amounts of benefits associated with said occurrence of events for the risks; further comprising the operation of receiving pricing data reflecting a symmetric exchange of non-proportional contractual exposures; and wherein the computing the net settlement is computed responsive to said pricing data.

67. (Currently Amended) The apparatus of claim 65, wherein the calculating expected mortality cash flows includes processing said descriptions and said assumptions in calculating timing and amounts of benefits associated with said occurrence of events for the risks; further comprising the operation of receiving pricing data reflecting a symmetric exchange of proportional contractual exposures; and wherein the computing the net settlement is computed responsive to said pricing data.

68. (Currently Amended) The apparatus of claim 65, wherein the calculating expected mortality cash flows includes processing said descriptions and said assumptions in calculating timing and amounts of benefits associated with said occurrence of events for the risks;

further comprising the operation of receiving pricing data reflecting an asymmetric exchange of proportional and non-proportional contractual exposures; and wherein the ~~computing~~ the net settlement is computed responsive to said pricing data.

69. (Currently Amended) The apparatus of any one of claims 33-43, 51-54, 64-68, wherein the computer system includes a second digital computer, said computers cooperating to carry out the financial derivative transaction.

70. (Currently Amended) A computer-readable memory medium comprising instructions being executed by a computer, the instructions including a computer-implemented method to manage cash flows for a transaction, the instructions for implementing comprising the steps of:

controlling the computer, in a system comprising an input device and an output device, so as to facilitate managing a financial derivative transaction, specified by lives of individuals and by at least one time period, of actual cash flow for expected cash flow, said cash flows arising from at least one event of death, disability, health, and survivorship, said managing including:

receiving, at the input device, respective descriptions of risks;

receiving statistical assumptions for said risks;

receiving financial assumptions for said risks;

specification of said lives and specification of each said time period, said specifications corresponding to said financial derivative transaction;

calculating, from the descriptions and the assumptions, expected cash flows corresponding to said risks for time periods corresponding to said financial derivative transaction;

receiving actual cash flows information from occurrence of events corresponding to said risks; and

accounting for a first party to the transaction owing the expected cash flows to a second party to the transaction; , and

accounting for the second party owing actual cash flows to the first party; and so as to produce, from said accountings, output at the output device corresponding to computing a net settlement, for each of said time periods, between the parties in the financial derivative transaction, specified by lives of individuals and by time periods, of to manage the actual cash flows and for the expected cash flows.

71. (New) The method of any one of claims 2-7, wherein the step of receiving respective descriptions of risks includes receiving nominal benefit amounts, for any one of death, disability, health and survivorship benefits, for said exposures; and

wherein the step of receiving statistical assumptions includes receiving expected benefit claim rates; and

wherein said step of calculating expected cash flows includes the steps of: incorporating margins and loadings in developing expected benefit claim rates for the financial derivative transaction; and

determining expected timing and expected amounts of benefits using said expected benefit claim rates, said corresponding nominal benefit amounts, and said characteristics of said risks associated with said exposures.

72. (New) The method of claim 71, wherein the step of receiving actual cash flows information from occurrence of events corresponding to said risks includes receiving

information on actual timing and the corresponding nominal amount of said benefits, respectively for each of said individuals.

73. (New) The method of claim 72, wherein said step of managing includes, for each of said lives and for each of said time periods of the financial derivative transaction:

tracking the expected timing and the expected amount of benefits, respectively for each of said individuals, if any, and calculating expected cash flows as a sum of said expected amounts of benefits;

tracking the actual timing and the corresponding nominal amount of benefits, if any, and calculating actual cash flows as a sum of said corresponding nominal amounts of benefits for the actual claims in said time periods; and

producing a tracking of the net settlements between the actual cash flows and the expected cash flows in said output data.

74. (New) The method of claim 1, wherein the financial derivative transaction comprises a financial derivative embedded into a financial instrument; and wherein the output data include documentation of the financial instrument.

75. (New) The method of claim 1, wherein the financial derivative transaction comprises a financial derivative embedded into a financial instrument, and further comprising the step of valuing said financial instrument based on the financial derivative transaction; and, wherein said output data includes the value of said financial instrument.

76. (New) The method of any one of claims 1-11, 19-22, 74-75, wherein said cash flows are disability cash flows.

77. (New) The method of any one of claims 1-11, 19-22, 74-75, wherein said cash flows are health cash flows.

78. (New) The method of any one of claims 1-11, 19-22, 74-75, wherein said cash flows are survivorship cash flows.

79. (New) The method of any one of claims 1-11, 19-22, 74-75, wherein said cash flows are death cash flows.

80. (New) The apparatus of any one of claims 33-43, 51-54, and 70, wherein said cash flows are disability cash flows.

81. (New) The apparatus of any one of claims 33-43, 51-54, and 70, wherein said cash flows are health cash flows.

82. (New) The apparatus of any one of claims 33-43, 51-54, and 70, wherein said cash flows are survivorship cash flows.

83. (New) The method of claim 1, further including the step of storing each said net settlement in memory accessible to said processor.

84. (New) The method of claim 1, wherein the step of facilitating the net settlement comprises facilitating a payment.

85. (New) The apparatus of any one of claims 33, 65, and 70, further including the operation of storing each said net settlement in memory accessible to said processor.

86. (New) The apparatus of any one of claims 33, 65, and 70, wherein the net settlement corresponds to a payment.

87. (New) The method of claim 73, wherein said step of managing includes forming a historical record of the expected timing and the expected amount of benefits, the actual timing and the nominal amount of benefits, respectively for each of said individuals, and each said net settlement for each of said time periods, wherein said output data include the historical record.

88. (New) The method of claim 71, wherein said step of managing includes the steps of:

providing the second party with documentation of said cash flows; and  
illustrating a transaction fee from the second party to the first party, including illustrating said transaction fee incorporated in the net settlements, wherein said output data include said transaction fee.

89. (New) The method of claim 71, wherein said step of managing includes the step of:

accounting for the first party receiving a fee for early termination of the financial

derivative transaction, wherein said output data includes said early termination fee.

90. (New) The apparatus of any one of claims 33, 65, 70, wherein said financial derivative transaction is specified, in input data, as a financial transaction in which the second party is an entity having ownership rights to said exposures, and said exposures are on more than one life of said individuals.

91. (New) The apparatus of any one of claims 33, 65, 70, wherein said financial derivative transaction is specified in input data as a financial transaction pursuant to a contract binding the parties.

92. (New) The apparatus of any one of claims 33, 65, 70, wherein said financial derivative is specified in input data as a financial transaction having a portion renewable on a period-to-period basis.

93. (New) The apparatus of any one of claims, 33, 65, further including the operation of determining an early termination fee corresponding to the financial derivative transaction.